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**Environmental Print:
From Context to Comprehension**

Alexandra E. Hinkel

Children, even from a young age, interact with words and practice “reading” before they ever go to school. Words are all around us, and are presented in many different ways. Children see the golden arches forming an “M” in the McDonald’s logo on the sign. They notice the “Cheerios” label on their box at breakfast. Many children can tell you what the word on the red octagon on the side of the street means, even if they can’t read the word “stop” yet. All of these are common examples of environmental print.

Environmental print is defined as the print that is seen around us in everyday life. This might include street signs, billboards, logos, and shop signs. One of the main things we already know about environmental print is that it helps young children understand that the words in print mean something, or that some message is communicated through them. This connection is crucial to developing early literacy skills. However, research has been rather inconclusive in understanding whether or not these children are actually reading the print they see on signs and logos, or if they’re mainly relying on contextual clues such as the colors, font and placement to identify the words.

Several studies have been published that each sought to understand whether or not engaging with environmental print is really considered “reading” (Burgin, 2009). The way that children interact with environmental print can tell us much about their emerging literacy skills, and how students first begin to understand the concepts of print, even if they aren’t truly “reading” the print.

Recognizing these connections can help educators design the best curricula for how children naturally learn about print and apply it in their classrooms.

Environmental print is strongly tied to the theories of Piaget's constructivism (Kirkland, Aldridge, & Kuby, 2007). Piaget's theories about how children construct knowledge and use context and experiences are extremely relevant. As children encounter print in new ways each day, they form connections and meaning that evolve and change with each new interaction. They construct meaning from exploring and interacting with the world around them. In the case of environmental print, children will observe the print, hear its name, notice the placement, etc. All of these stimuli shape and construct the child's ideas about that print.

Another theorist, Ylisto, found that children learn to read environmental print in a very specific way. He states that first, children notice the print in its setting. This might be the Wendy's sign on the side of the road and on the restaurant. It's easy to identify and "read" because of the context such as placement, color and font. His experiments in 1967 concluded that the children were less likely to recognize the word if it was hand written on paper. The children were even less likely to recognize the word if it was printed in a sentence (Kirkland, Aldridge, & Kuby, 2007). Somewhere, the meaning of the word was lost in translation for these children. This led Ylisto to believe that the context was vital for students to understand the meaning, and therefore they were not truly reading the print.

However, a study done in 1994 found that children scored higher in recognizing words from environmental print without the context of color, placement and font when their teachers wrote out those words in manuscript next to the logos. This direct instruction led to students who were better able to recognize the words later in isolation and within sentences (Kirkland, Aldridge, & Kuby, 2007). This study suggested that direct instruction helped to bridge the gap between reading environmental print and its manuscript form.

Yet another study tried to understand how environmental print is best used in the classroom. Does direct instruction, indirect instruction, or no instruction at all yield the best learning results for students? They found that direct instruction actually led to no statistically significant gains when compared to the control, or “no instruction” group (Kirkland, Aldridge, & Kuby, 2007). Unexpectedly though, they did discover that the “indirect instruction” group scored higher in every category (table one). For this experiment, indirect instruction referred to using environmental print in learning centers or dramatic play, with adult supervision and interjection as needed. The results indicated that centers using environmental print rich components “offered numerous opportunities for children to associate meaning with print”, and therefore resulted in the highest scores (Kirkland, Aldridge, & Kuby, 2007).

Table 1

Group	1	2	3	4	5	6
Direct	8.846	8.895	7.302	4.195	3.313	2.174
Indirect	9.376	9.195	8.622	7.365	7.123	5.214
Control	8.606	8.235	6.752	3.805	3.103	1.504
*Levels were as follows: 1 = actual logo; 2 = photocopy of actual logo; 3 = photocopy of logo with no supporting detail; 4 = manuscript prompt; 5 = typed prompt; 6 = manuscript prompt embedded in a sentence.						

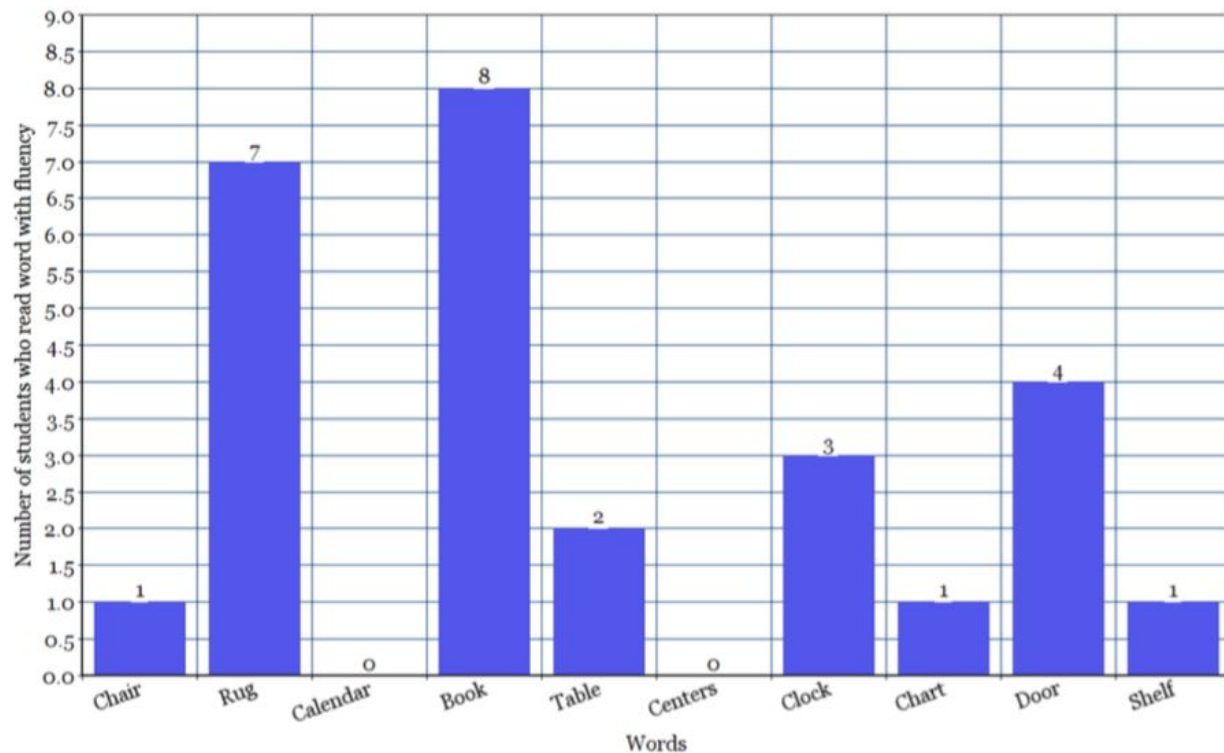
(Aldridge & Kuby, 2003)

Other studies have looked at the impact of environmental print on children with special needs. One study found that children with developmental delays benefited from using environmental print in the classroom, as students were more likely to consider themselves as readers and writers, as well as more proactive in looking for and engaging with print around them (Kirkland, Aldridge, & Kuby, 2007).

While these studies have ultimately produced mixed results, educators are still using environmental print in their classrooms today. One common way educators incorporate environmental print in the classroom is by creating their own labels or signs. Many classrooms have items within the room labeled such as clock, desk, door, bookshelf, etc. This exposes students to the printed word and they naturally begin to associate the word with the item it is placed near. Another common practice is to create these labels in Spanish or French for second language classes. Despite its common practice, research thus far shows very little evidence for how effective environmental print in the classroom truly is.

I studied a Kindergarten classroom of 24 students in order to determine how they observed and retained environmental print around them. I gave each student a pretest of ten words to gauge their ability to quickly and fluently recognize the word. The average student's score was 1.35 out of ten words read with fluency. The highest score was eight out of ten, while the lowest was zero out of ten.

Table 2
Environmental Print Pre Test Data Results



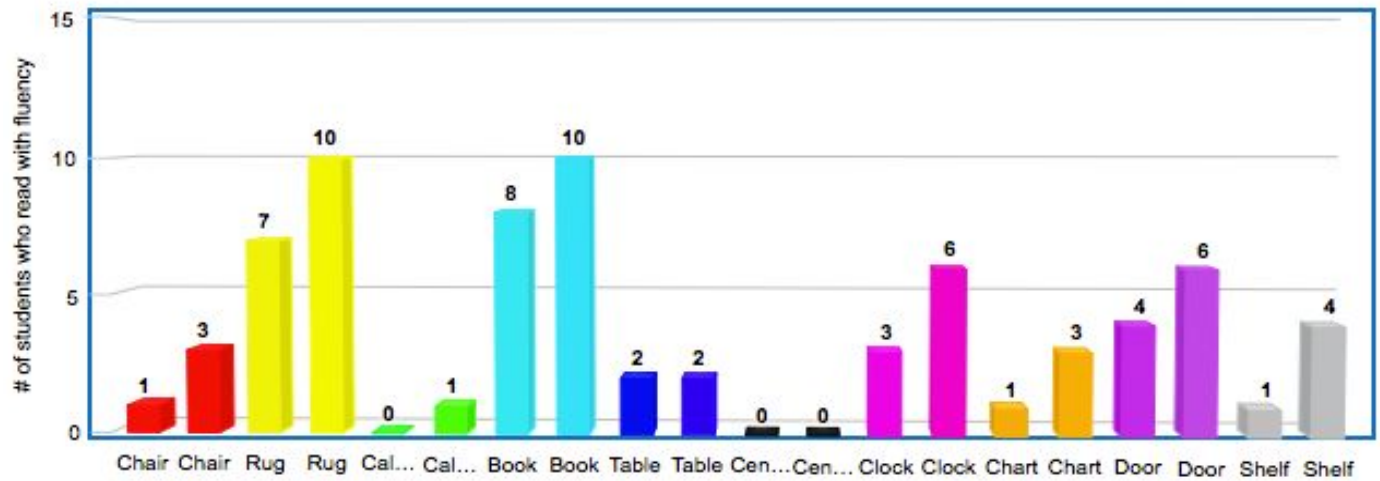
These initial low scores allowed for improvement which I expected to see after three weeks of introducing the environmental print to the classroom. The pretest served as a baseline of student knowledge that was used in comparison to data collected at the end of the trial.

After collecting the pretest results, I established the environmental print labels in my classroom. The environmental print labels were introduced to students by telling the class what each label said, and then asking students where the label should be placed in the classroom. Each label was explicitly mentioned once, but was not used during any other direct instructional time. The labels were left for students to engage with as they would any other print in their environment. This creates a more realistic attempt at understanding how much students notice, read, and recall print in their environment that is not explicitly taught, but rather observed at the readers own level of interaction.

The environmental print labels varied in frequency with “chair” being placed on student chairs ten times within the room, while “door” was only labeled once. I expected to see students score better on the post test on words which appeared more frequently throughout the room because there was a greater chance that the students would notice and commit to memory the words that they had more frequent exposure to. The environmental print labels were left up in the classroom for three weeks.

After the three week period, I collected a new data set using the same test. The results showed that eleven students improved their scores while seven students showed no improvement. None of the students’ scores decreased. The highest increase was by four, while the lowest was zero. The words with the most improvement were rug, book, and shelf.

Table 3
Pretest and Posttest Data Compared



(The first bar indicates the # of students who read the word with fluency on the pretest. The subsequent bar indicates the # of students who read the word with fluency on the post-test.)

This result was surprising because I had anticipated that the more frequent words would be scored higher. Chair was labeled several times in the room, but it was on the back of the chairs. Because of this, I think students didn't see it or interact with it as often as if it would have been on the front of the chair. I noticed instead that the words that students improved on the most were the words they were more frequently around.

This includes the rug, which was labeled on the corner. The students are always on the rug for whole group and in math and reading centers. The proximity to the print, rather than frequency, may have played a role in students committing it to memory better. The same is true of "door", and "book". Students frequently line up by the door and are near the bookshelf during calendar math

and centers. The only word that scored high that doesn't follow this trend is the clock.

The label “clock” was high on the wall near the clock, which students did not have proximity to at any point in the day. One possibility may be that students look at the clock frequently throughout the school day to check the time. Another possibility is that students just improved their reading skills in the three weeks between the pretest and post-test.

In order to account for this, one aspect of this experiment I would like to change if repeated is to include words on the test that are not labeled in the room but contain similar patterns. For example, “rug” was on the test and I would like to have another CVC patterned word such as “put”. If students scored higher on the post test on both rug and put, I might be able to tell that they had just improved in their ability to read CVC pattern words more fluently. However, if they only improved in reading “rug” (which was an environmental print label) and not “put”, it would differentiate the improvement as being due to the environmental print and not due to improved overall reading skills.

Another extension that would be interesting in future trials is to add in colors and fonts on the environmental print labels. If the labels had colors and fonts on them, I could create two or three separate post-tests. One post-test may have the same colors and fonts as the labels. The next post-test may just have the colors, without the context of the font and vice versa. Lastly, the final version would have neither color, nor font, without any context. If students could read

the words with color and fonts but are not able to read them without it, then it would help distinguish how students prefer to naturally recall and recognize words. I would be interested to see if color or font played a bigger role in word recognition. I would also be interested to see if students would actually score better on tests that included color and font or if there would be no difference.

Despite the need for additional research, I would strongly suggest using environmental print within the classroom. It increases exposure to print and allows students to interact with and give meaning to the word. Additionally, having students recognize and read words from familiar logos and environmental print helps to boost the confidence of students who otherwise cannot read. It can also be used to make meaningful connections to the students' home life. Students normally see these logos in their home and community, and can be tasked with bringing in a label. The class can then use the labels to make connections to life experiences, phonics, and more (Kuby 1999).

Another effective strategy is to help struggling ELL students. Labels can be placed around the classroom in more than one language, which can be beneficial to all students. Some students do not speak English at home, and their parents may struggle to read or write in English. In these cases, environmental print from logos can be an extremely effective tool for parents to work with children on English words and letters (Kirkland, Aldridge, & Kuby, 2007). In the same way, illiterate parents can also help work with students by using familiar environmental print.

There are several other ways in which environmental print can be used in the classroom, many of which are cheap, reusable, and can be brought in from students' homes. One of the most engaging methods is to include boxes with food logos, or toy logos, in a dramatic play center. There is evidence suggesting that "play was the part of the day in which students most often incorporated environmental print into their casual conversations, since they were interacting with toys and objects that had logos and names on them" (Burgin 2009). This is an easy, cheap and effective way to incorporate environmental print into centers for preschool and Kindergarten aged students.

The use of any of the aforementioned strategies for incorporating environmental print in the classroom is valuable not only because it exposes students to the words, but because it also helps them to understand that print has a message to communicate. "The inherent value in environmental print awareness is that children are coming to understand that print means something and they are making sense of the world around them through their natural curiosity and desire to understand print" (Kassow 2006). This understanding about print helps students to develop early literacy skills which are so crucial for their success inside and outside of the classroom. Language and writing are the most valuable tools for communication in our society today and allow students to gain and communicate knowledge in the world around us. Environmental print can be the first stepping stone to help emerging readers on their path to literacy.

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